

# Forage Harvest Management

**WV Conservation Practice Job Sheet**

**Code 511**



## DEFINITION

The timely cutting and removal of forages from the field as hay, greenchop, or ensilage.

## PURPOSE

This job sheet should be used to optimize the yield and quality of forage at a desired level, promote vigorous plant re-growth, maintain the life of the stand, utilize forage plant biomass as a nutrient uptake tool; control insects, diseases, and weeds; maintain and/or improve wildlife habitat, and maintain desired species composition.

### Planting Dates

March 15 – April 15

August 15 – September 15

### Harvesting Requirements

Forage will be harvested at a frequency and height that will maintain a healthy plant community for the desired species throughout its life expectancy. Cutting and harvesting should be based on the species and its needs.

If the selected species is harvested at a later stage of maturity, use for livestock that have lower nutritional needs, or balance feed ration using supplements.

If a foliar disease or insect infestation will lower forage quality, harvest before excessive leaf loss or other damage.

If harvesting a grass-legume mixture, harvest at the time to favor the desired species.

#### Moisture Content

Direct cut hay crop silage (moisture content > 70%) may need to be treated with chemical preservatives to avoid dry matter losses from fermentation and/or seepage.

For optimal dry hay quality, rake hay at 30 to 40 percent moisture and ted or invert swaths when moisture is above 40 percent.

To preserve forage quality and quantity, bale field cured hay at 15 – 20 percent moisture and bale force air dried hay and 20 – 35 percent moisture.

*Length of Cut* - When harvested for ensilage, forage will be chopped to a size appropriate for type of storage structure (high moisture wrapped or tubed bales) that allows adequate packing to produce the anaerobic

conditions necessary to ensure the proper ensiling process.

**Contaminants** - Forage shall not contain contaminants that can cause illness or death to the animal being fed or rejection of the offered forage.

#### Fertility Management

Refer to Prescribed Grazing Plan and Nutrient Management Plan to determine fertility needs and nutrient application rates.

#### Requirements to Improve or Maintain Stand Life

**Stage of Maturity and Harvest Interval** - Cut forage plants at a stage of maturity or harvest interval range that will provide adequate food reserves and/or basal or auxiliary tillers or buds for regrowth and/or reproduction to occur without loss of plant vigor.

Cut reseeding annuals at a stage of maturity and frequency that ensures the production of viable seed or ample carryover of hard seed to maintain desired stand density.

If plants show signs of short-term environmental stress, management will be applied in a manner that encourages the continued health and vigor of the stand.

**Stubble Height** - Cut forage plants at a height that will promote the vigor and health of the desired species. Cutting heights will provide adequate residual leaf area; adequate numbers of terminal, basal or auxiliary tillers or buds; insulation from extreme heat or cold; and/or unsevered stem bases that store food reserves needed for full, vigorous recovery.

Manipulate timing and cutting heights of harvest to ensure germination and establishment of reseeding or seeded annuals.

#### Requirements for use as a Nutrient Uptake Tool

For fields with one or more nutrients testing in high or excessive amounts, harvest as needed to bring accumulated soil nutrients within the agronomic optimum soil test range. Consider introducing species that require high levels of particular nutrients.

It is recommended that forage testing be done on forages that are harvested from over-fertilized fields. When needed, balance feed ration by using the actual nutrient content of the forage in lieu of "assumed" or "average" values.

#### Requirements for controlling disease, insect, weed and invasive plant infestations

Schedule harvest periods to control disease, insect, and weed infestations. When a pesticide is used to control disease, insects or weeds, adhere to the specified days to harvest period stated on the pesticide label. (*Consult*

*the West Virginia University Extension Service to determine the best pesticide combination and application time.*) Evaluate pest management options by planning conservation practice standard *Pest Management* (595).

## **OPERATION AND MAINTENANCE**

To insure the plant species remain productive for the expected life span, the following measures should be used:

Grazing will be regulated to limit damage to the forage plant. This is especially critical during periods where the field is wet (compaction), in the early fall, and in early spring.

To insure adequate root reserve, the plants will be allowed to reach the heights shown in Table 1 prior to first killing frost.

All livestock will be removed from the fields before plants begin spring growth. Although this varies across the state, a general guideline is removal by mid February for elevations less than 2000 feet and by mid March for all other areas.

When the desired quantity and quality of the forage decreases to unacceptable levels, renovation may be necessary. Although not usually needed, a complete seedbed preparation may be the best economic and environmental alternative. Other options to consider include interseeding by no-till methods, tromp seeding, and frost seeding. Refer to *Standard 512, Pasture and Hayland Planting* for recommendations.

## Specifications

Site-specific requirements are listed on the specification sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and the Forage Harvest Management (511). Information on this job sheet is considered to be part of the conservation plan.

### 511 Forage Harvest Management - WV Job Sheet

<b>Client:</b>	<b>Farm #:</b>	<b>Phone:</b> ( ) _____
<b>Field(s):</b>	<b>Tract #:</b>	
<b>Prepared By:</b>	<b>Date:</b>	

Purpose (check all that apply)	
<input type="checkbox"/> Optimize the yield and quality of forage at the desired levels.	<input type="checkbox"/> Use forage plant biomass as a nutrient uptake tool.
<input type="checkbox"/> Promote vigorous plant re-growth.	<input type="checkbox"/> Control insects, diseases, and weeds.
<input type="checkbox"/> Maintain stand life.	<input type="checkbox"/> Maintain desired species composition.

Type of Forage Removal (Check One)	
<input type="checkbox"/> Hay	<input type="checkbox"/> Greenchop
<input type="checkbox"/> Ensilage	

Harvest Guide	Field ____	Field ____	Field ____
Forage Crop			
Period			
Stage of Maturity for Harvest			
Height at First Killing Frost			
Stubble Height			
Harvest Interval			
Number of Harvests per year			
Mower Type			
Baler Type			

<b>Storage Method</b> (select all that apply)	
<b>Dry Hay - Round bale (Outside)</b> <input type="checkbox"/> Twine <input type="checkbox"/> Plastic wrap <input type="checkbox"/> Net wrap <input type="checkbox"/> Tarps <input type="checkbox"/> Bale Sleeves <input type="checkbox"/> Stacked <input type="checkbox"/> Open pad	<b>Dry Hay – Round bale (Inside)</b> <input type="checkbox"/> Barn <input type="checkbox"/> Open sided shed with pad <input type="checkbox"/> Open sided shed without pad
<b>Dry Hay – Square bale (Outside)</b> <input type="checkbox"/> Stacked on ground <input type="checkbox"/> Tarp on ground <input type="checkbox"/> Stacked on pad <input type="checkbox"/> Stacked on pad with tarp	<b>Dry Hay – Square bale (Inside)</b> <input type="checkbox"/> Barn <input type="checkbox"/> Open sided shed with pad <input type="checkbox"/> Open sided shed without pad
<b>Ensilage</b> <input type="checkbox"/> Baleage (plastic wrapped round bale) <input type="checkbox"/> Baleage (plastic tubes/bags) <input type="checkbox"/> Silo (Upright) <input type="checkbox"/> Silo (bunker) <input type="checkbox"/> Silo (bag/plastic tubes)	
<b>Operation and Maintenance</b>	
<p>Follow the procedures and methods for Operation and Maintenance as outlined in this job sheet.</p> <p>To insure the plant species remain productive for the expected life span, the following measures should be used:</p> <p>Grazing will be regulated to limit damage to the forage plant. This is especially critical during periods where the field is wet (compaction), in the early fall, and in early spring.</p> <p>To insure adequate root reserve, the plants will be allowed to reach the heights shown in Table 1 prior to first killing frost.</p> <p>All livestock will be removed from the fields before plants begin spring growth. Although this varies across the state, a general guideline is removal by mid February for elevations less than 2000 feet and by mid March for all other areas.</p> <p>When the desired quantity and quality of the forage decreases to unacceptable levels, renovation may be necessary. Although not usually needed, a complete seedbed preparation may be the best economic and environmental alternative. Other options to consider include interseeding by no-till methods, tromp seeding, and frost seeding. Refer to <i>Standard 512, Pasture and Hayland Planting</i> for recommendations.</p> <p><b>Additional requirements:</b></p>	

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If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Additional Notes, Specifications, Requirements, etc.

**For more information concerning this practice contact:**

\_\_\_\_\_ at \_\_\_\_\_

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